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ABSTRACT

The results of the Pennsylvania Educational Quality Assessment program, Phase II, are interpreted. The first section of the manual presents a statement of each of the Ten Goals of Quality Education which served as the basis of the assessment. Also included are the key items on the questionnaires administered to 5th and 11th grade students. The second section concerns condition variables--their sources, and how raw data were transformed into condition variables. Section three provides norm tables showing the distributions on the measurement instruments in grades 5 and 11 in 355 elementary and 73 secondary schools. In addition, tables provide condition variable norms for the two grades, along with condition variable indices. Tables also provide a summary of the variables used to predict school means and the weights applied to the variables. The percentile distributions for the total student sample of each of the two grade levels were computed and tabulated. The tables show percentile ranks, raw score equivalents, and the mean of each school as well as student distribution on five groupings--very high, high, middle, low, and very low. The manual concludes with instructions in how to read a norm chart with an illustration, and illustrations are also given of the form a school report takes. (For related documents, see TM 001 436, 437, 439.) (DB)

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Educational Quality Assessment

Manual for Interpreting School Reports

Manual for Interpreting School Reports

Bureau of Educational Quality Assessment
Pennsylvania Department of Education
January 1971

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FOREWORD

The Pennsylvania program of assessment is designed to translate the Ten Goals of Quality Education into measures of pupil performance which can be used to determine the effectiveness of school programs. Four factors were taken into account. They were: input, surrounding conditions, educational processes and output.

Pupils enter school with different abilities, values, and habits, and the school has to start with the children as it finds them. In assessing school programs, these differences must be considered. This is input.

Surrounding conditions differ--in the home, the school, and the community--and impose unavoidable constraints on what a school can accomplish with its pupils. A school in an urban slum must cope with conditions vastly different from those confronting a school in an upper-class suburb. Such conditions had to be identified and measured.

School programs differ. The quality of the school's educational processes were appraised by measuring the quality of its output. This meant measuring the abilities, attitudes, values, and habits of pupils completing each phase of the school program.

Finally, the results of the assessment program were interpreted. Its value to you, the concerned educator, depends upon your willingness to use the results to discover your school's strengths and weaknesses and attempt to improve your educational programs accordingly. This manual is designed to help you understand the results of the assessment program as they pertain to your school.

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QUALITY EDUCATION INSTRUMENTS

A committee, appointed by the State Board of Education, formulated Ten Goals of Quality Education which served as the basis for assessment. A paper-and-pencil test, or instrument, was developed to measure each of the goals. These ten instruments formed the major portion of the questionnaires administered to 5th and 11th grade students in the schools sampled in the Phase II normative study as well as the students in the schools participating in Phase III.

The following section contains a complete statement of each goal and a brief discussion of the rationale for its selection. Also included are key items on the instruments used to measure each goal and the percentage of students in the Phase II normative sample who chose the various response alternatives for these items. Key items are defined as those items which have high item to total correlations in each instrument.

GOAL I

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE THE GREATEST POSSIBLE UNDERSTANDING OF HIMSELF AND AN APPRECIATION OF HIS WORTHINESS AS A MEMBER OF SOCIETY.

It is widely held that self-understanding is significantly associated with personal satisfaction and with effective functioning. The views which students have of their adequacies and their inadequacies and of their values and their desires can strongly influence their performance in school.

Self-understanding is a personal judgment of worthiness, a subjective experience which individuals convey to others by verbal reports and other overt expressive behaviors. What are the conditions that lead individuals to value themselves and to regard themselves as persons of worth? Coopersmith (1967) discusses four major factors which contribute to the development of self-understanding:

1. We value ourselves as we are valued. The amount of respectful accepting and concerned treatment we receive from parents, teachers and other significant persons can have a profound effect on the amount of worth we ascribe to ourselves.

2. We achieve self-understanding when living up to aspirations in areas we regard as personally significant. All persons do not necessarily interpret indices of success and approval as equally favorable.

3. We perceive success and esteem in light of our personal goals and values.

4. Our manner of responding to devaluation can help us to maintain our self-respect or can lead us to minimize and distort it. The ability to defend the self in the face of negative appraisals helps us to reduce anxiety and maintain personal equilibrium.

Quality education should provide the opportunity for students to achieve confidence in their personal attributes so that they will be able to make decisions, defend their positions and plan ahead. Quality education should provide the opportunity for all students to achieve in their schoolwork and to

gain confidence in their abilities to achieve academically. Finally, quality education should provide the opportunity for students to relate successfully to peers, teachers and parents.

KEY ITEMS - GRADE 5

	Like Me	Unlike Me
E. 38. My parents understand me.	73%	21%
E. 39. There isn't much of a chance for a person like me to succeed in life.	29%	67%
E. 47. I'm proud of my schoolwork.	65%	31%

KEY ITEMS - GRADE 11

C. 39. My parents understand me	52%	42%
C. 40. There isn't much of a chance for a person like me to succeed in life.	10%	85%
C. 48. I'm proud of my schoolwork.	49%	45%

GOAL II

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE UNDERSTANDING AND APPRECIATION OF PERSONS BELONGING TO SOCIAL, CULTURAL AND ETHNIC GROUPS DIFFERENT FROM HIS OWN.

Quality education should provide the experience for students to respect and achieve an easy interaction with students who differ from themselves in physical characteristics, cultural traditions, economic status, religious beliefs and degree of intellectual competence.

Students should be able to speak with and select as friends students of different origins and beliefs. They should actively seek information and participation which will increase their knowledge about other cultures and other social settings. To evaluate others, students should be helped to use empirical and objective criteria rather than stereotyped and hearsay information.

KEY ITEMS - GRADE 5

	I would like it	I wouldn't mind it	I would rather not	I would dislike it	I cannot say
D. 6. How would you feel about sitting in class next to a person whose skin color is different from your own?	15%	60%	6%	4%	11%
D. 9. How would you feel about sitting in class next to a person whose ideas about God are very different from your own?	9%	46%	10%	11%	20%
D. 12. How would you feel about sitting in class next to a person whose family is much poorer than yours?	12%	55%	6%	7%	16%

KEY ITEMS - GRADE 11

	I would like it	I wouldn't mind it	I would rather not	I would dislike it	I cannot say
B. 6. How would you feel about sitting in class next to a person whose skin color is different from your own?	9%	78%	2%	3%	3%
B. 9. How would you feel about sitting in class next to a person whose ideas about God are very different from your own?	6%	76%	3%	4%	7%
B. 12. How would you feel about sitting in class next to a person whose family is much poorer than yours?	6%	82%	2%	2%	3%

GOAL III

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE TO THE FULLEST EXTENT POSSIBLE FOR HIM MASTERY OF THE BASIC SKILLS IN THE USE OF WORDS AND NUMBERS.

Mastery of the basic skills in the use of words and numbers is fundamental to achievement in all academic areas. Basic skills include the ability to acquire ideas through reading and listening, the ability to handle mathematical operations and the ability to reason logically and to respect evidence. The level of performance that can be reasonably expected in each of these areas will vary from school to school. However, it is of profound importance that the level of expectation in basic skills for any group of pupils shall not be underestimated or regarded as fixed.

Research has shown that socioeconomic status and potential ability levels account for the most consistent and largest set of common variance in the achievement of basic skills. Quality education should encourage the design of school programs which can be effective in spite of relatively low measured potential and relatively low social status. Moreover, it is plausible, and has been shown to be possible, that not only achievement but also intellectual potential can be modified by school processes. Fruitful program experimentation needs to focus on improving intellectual functioning or upon better utilization of existing intellectual functioning.

GOAL IV

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE A POSITIVE ATTITUDE TOWARD SCHOOL AND TOWARD THE LEARNING PROCESS.

Quality education should provide learning experiences which pupils find interesting, valuable, pleasant and active. Quality education should encourage pupils to display positive attitudes toward school assignments and positive attitudes toward the school climate. Pupils should express the interest and the desire to graduate from high school, express the opinion that learning does not end where formal education ends and express the desire to return to some type of educational setting from time to time as adults.

KEY ITEMS - GRADE 5

		Almost Always	Often	Sometimes	Seldom	Almost Never
H. 12.	I like school.	35%	14%	22%	9%	15%
H. 15.	Our school building is nice to be in.	37%	19%	22%	9%	9%

KEY ITEMS - GRADE 11

		Almost Always	Often	Sometimes	Seldom	Almost Never
D. 13.	I like school.	20%	15%	35%	8%	15%
D. 18.	Our school building is nice to be in.	26%	18%	28%	9%	13%

		Yes	Uncertain	No
D. 24.	I would like to quit school now or as soon as I am 16.	3%	5%	87%

GOAL V

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE THE HABITS AND ATTITUDES ASSOCIATED WITH RESPONSIBLE CITIZENSHIP.

Quality education should encourage pupils to be willing to assume responsibility for their actions as well as the actions of the group. Opportunities should be provided for pupils to cooperate and work toward group goals and to demonstrate integrity in dealing with others. Pupils should be given the chance to take the initiative and assume leadership for group action as well as lend support to group efforts as followers.

In order to make appropriate, reasonable decisions, pupils should make every effort to be informed by listening and reading. Schools should provide the opportunity for pupils to voice criticisms in a rational manner and work through group activity to bring about changes. Pupils should be encouraged to take an interest in their communities and become involved in community activities which support their beliefs.

KEY ITEMS - GRADE 5

		Never	Very Seldom	Sometimes	Most of the time	Always
I. 24.	If a store clerk gave me too much change, I would return the extra money.	9%	7%	12%	13%	55%
		Disagree Strongly	Disagree	Neither Agree or Disagree	Agree	Agree Strongly
I. 41	It's okay to break a school rule if everyone else is breaking it.	49%	22%	14%	10%	9%

KEY ITEMS - GRADE 11

		Never	Very Seldom	Sometimes	Most of the time	Always
B. 24.	If a store clerk gave me too much change, I would return the extra money.	13%	11%	18%	22%	31%

		Disagree Strongly	Disagree	Neither Agree or Disagree	Agree	Agree Strongly
B. 41.	It's okay to break a school rule if everyone else is breaking it.	41%	21%	22%	6%	4%

GOAL VI

QUALITY EDUCATION SHOULD HELP EVERY CHILD ACQUIRE GOOD HEALTH HABITS AND AN UNDERSTANDING OF THE CONDITIONS NECESSARY FOR THE MAINTAINING OF PHYSICAL AND EMOTIONAL WELL-BEING.

Facts and understandings about the structure and function of the human body, diseases and their prevention, emotional and social adjustment, environmental hazards, posture and body mechanics, dental health, food and nutrition, personal hygiene and first aid and safety are all essential requirements for successful achievement in Goal VI.

In their own interests as well as in the interests of society at large, pupils should know how to keep themselves mentally and physically fit. They should have an awareness of those practices which may be harmful to their physical and mental well-being as well as an awareness of those practices which may be beneficial.

KEY ITEMS - GRADE 5

C.31. Which of the following is <u>not</u> likely an effect of smoking?

A.	Shortness of breath	9%
B.	Lung cancer	23%
C.	Good appetite	64%

C.25. When should boys and girls have a health examination?

A.	Only when they are sick.	10%
B.	Only when their parents can afford it.	13%
C.	At least every three years.	73%

KEY ITEMS - GRADE 11

A. 36. The best time to visit a dentist is

A.	When you think you need treatment.	5%
B.	When you know you need treatment.	4%
C.	At regular intervals	80%
D.	At the first sign of a toothache.	3%
E.	When you can't stop a toothache.	2%

A. 54. John purchased a second-hand car which was in excellent condition. If you were John, you would consider it poor safety practice to

A.	Keep regular check on the car's mechanical condition.	8%
B.	Refuse to pick up hitchhikers.	8%
C.	Be courteous to others using the road.	6%
D.	Drive consistently at a very low speed.	62%
E.	Drive only when alert.	6%

GOAL VII

QUALITY EDUCATION SHOULD GIVE EVERY CHILD OPPORTUNITY AND ENCOURAGEMENT TO BE CREATIVE IN ONE OR MORE FIELDS OF ENDEAVOR.

Definitions of creativity can usually be classified into three categories, depending on whether the emphasis is on the product, the process or the subjective experience. The EQA rationale for Goal VII states that:

1. There is a student potential for creative output. All students have within themselves more or less ability to participate in creative activities and to express their behaviors in a verbal, visual or tangible product. Creative abilities include:

   a. Self-Direction--students are able to complete the task at hand by employing their own resources.
   b. Evaluative Ability--students recognize that their own ideas have worth even if these ideas are not always approved by others and express reasonable balance in opinions of their work.
   c. Flexible Thinking--students are not confined to a single approach to problems. They are willing to consider views different from their own and are not adverse to shifting context.
   d. Original Thinking--students are able to see new relationships, are willing to search for novel approaches and are interested in making new compositions.
   e. Elaborative Thinking--students desire to develop projects beyond minimum requirements and are interested in outcomes and implications.
   f. Willingness to Take Risks--students are not so sensitive to criticisms that they are not able to support their own view; they are willing to accept challenges and are responsive to opportunities to set their own goals.
   g. Ease with Complexity--students like to toy with complex ideas, enjoy coping with knotty problems and are challenged by complications.

2. There are conditions under which creative behavior is more likely to occur. Classroom climates can serve to enhance or inhibit the processes and experiences of creativity. Depending on the classroom conditions, potential abilities can be thwarted or can thrive

3. There are characteristics which seem to define creative output, whether the product be tangible or ideational, complete or incomplete. These characteristics include:

a. Newness of Approach--students have accomplished purposeful searches for different pathways to the anticipated product other than those which have been commonly followed in the past.
b. Originality--students have accomplished independent and/or spontaneous, firsthand productions with freshness of aspect or design or newness of style or character.
c. Adaptiveness--students have modified methods, artifacts or processes to serve different purposes, to fit new sets of requirements or to produce different products.
d. Occupational Uniqueness--students have accomplished productions which are not usually expected of high school students.
e. Evocation of Feeling and Communication of an Idea--students have accomplished productions which transmit feelings or ideas to others.

When a product displays one or more of these characteristics, recognition is often bestowed.

KEY ITEMS - GRADE 5

	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
F. 24. I enjoy learning how to do something in a new and different way.	34%	37%	14%	6%	4%
F. 40. Pictures of grass could be painted any color.	13%	20%	21%	25%	16%

KEY ITEMS - GRADE 11

E. 13. How creative do you feel you are? How able are you to come up with new ideas that work?

A. Highly creative	7%
B. Somewhat more creative than most	21%
C. Moderately creative	46%
D. Somewhat less creative than most	15%
E. Not very creative	6%

E. 3. How often do you like to fool around with new ideas, even if they turn out to be a total waste of time?

A. Almost always	12%
B. Frequently	30%
C. Sometimes	35%
D. Rarely	12%
E. Never	5%

GOAL VIII

QUALITY EDUCATION SHOULD HELP EVERY CHILD UNDERSTAND THE OPPORTUNITIES OPEN TO HIM FOR PREPARING HIMSELF FOR A PRODUCTIVE LIFE AND SHOULD ENABLE HIM TO TAKE FULL ADVANTAGE OF THESE OPPORTUNITIES.

Quality education should provide the opportunity for students to discover the practically unlimited possibilities for continuing self-development in the world of work. Processes rather than specific points in time describe the manner in which individuals move toward vocational maturity.

At the beginning stages of vocational maturity pupils are aware of different kinds of work and workers and have a growing understanding of the relatedness of educational and occupational opportunities. The more vocationally mature students will show involvement in the choice process by actively seeking information, will take personal responsibility for career decisions and finally will base their career choices upon a realistic appraisal of their interests, achievement and aptitudes.

KEY ITEMS - GRADE 5

	TRUE	FALSE
G. 36. You get into an occupation mostly by chance.	37%	57%
G. 41. I have little or no idea what working will be like.	48%	48%
GRADE 11		
G. 36. You get into an occupation mostly by chance.	13%	80%
G. 41. I have little or no idea what working will be like.	20%	73%

GOAL IX

QUALITY EDUCATION SHOULD HELP EVERY CHILD TO UNDERSTAND AND APPRECIATE AS MUCH AS HE CAN OF HUMAN ACHIEVEMENT IN THE NATURAL SCIENCES, THE SOCIAL SCIENCES AND THE ARTS.

Pupils should be encouraged and helped first to gain knowledge about human accomplishments. Possessing knowledge they will then be ready to receive and not to avoid the stimuli that the sciences and the arts provide. At the next level, they will be ready to more clearly and consciously perceive these stimuli and will begin to discriminate among art forms. When they reach this stage of development, they will be ready to respond rather than merely attend to phenomena--they will choose to see a play, to read of a famous scientist or to contemplate the design of a building.

Reaching a higher level of development, they will gain satisfaction in responding. Music will become an emotional involvement. Politics will become a zealous pursuit. Reading will become a vicarious experience.

At the highest level of development, students will exhibit a degree of sensitivity that enables them to differentiate the worthy from the worthless in the multifarious products of civilization--books, motion pictures, radio, TV, music, the visual and performing arts, architecture, industrial design and literature.

KEY ITEMS - GRADE 5

	Yes	No	Cannot Say
A. 19. Would you like to visit a theater to see a play?	80%	8%	8%
A. 17. Would you like to take part in musical activities?	48%	31%	17%

KEY ITEMS - GRADE 11

	Yes	Maybe	No
H. 23. If you had the opportunity, would you like to attend a symphony concert?	24%	26%	44%
	Agree	**Cannot Say**	**Disagree**
H. 50. Most works of art are too difficult to understand.	24%	39%	32%

GOAL X

QUALITY EDUCATION SHOULD HELP EVERY CHILD TO PREPARE FOR A WORLD OF RAPID CHANGE AND UNFORESEEABLE DEMANDS IN WHICH CONTINUING EDUCATION THROUGHOUT HIS ADULT LIFE SHOULD BE A NORMAL EXPECTATION.

Quality education should help students develop attitudes of openness to the possibilities of change--change in their personal world as well as external change. Students should be encouraged to show tolerance for ambiguity and to welcome new experiences. Students should learn to view education as an important and essential activity that does not end when formal schooling ends.

KEY ITEMS - GRADE 5

	I like it	I cannot say	I don't like it
B. 11. In 1989 there will be no attendance rules. Pupils can use the school building as many days each year as they wish. Pupils can come and go anytime.	44%	15%	37%
B. 42. In 1989 there will be no required subjects. Pupils can take any subjects they wish to take.	54%	16%	24%

KEY ITEMS - GRADE 11

	I accept it	I cannot say	I do not accept it
I. 11. In 1989 there will be no attendance rules. Pupils can use the school building as many days each year as they wish. Pupils can come and go anytime.	35%	12%	46%
I. 12. In 1989 there will be no uired subjects. Pupils can ta subjects they wish to take	53%	12%	29%

Reliability and Validity

Internal consistency reliability coefficients were computed for all EQA inventories. When data were analogous to the usual right-wrong response form, the Kuder-Richardson formula 20 was used. Where the response pattern was a matter of degree, Cronbach's coefficient alpha was computed.

All of the EQA inventories have content validity. Their contents were "validated" according to the rationales developed for each of the ten goals by the EQA staff or measurement researchers both locally and nationally. Evidence of construct validity for most of the inventories was obtained through factor analysis. Some of the inventories have been subjected to criterion related validity tests.

Reliability and validity are neither completely dichotomous, general nor absolute. Users must make the decisions about the adequacy with which these concepts are fulfilled in each situation. Validity studies of the EQA inventories continue so that information about the performance of these measures under a variety of circumstances may be gathered in order to assess their appropriateness for any given situation.

Section 3 of Phase II Findings discusses in detail the validity information collected about the EQA inventories. Section 4 of Phase II Findings presents in detail the technical properties of each of the EQA inventories. Characteristics of the EQA instruments used to measure the quality education goals for Grades 5 and 11 are summarized in Tables I and II respectively.

TABLE I
GRADE 5 SUMMARY OF INSTRUMENTS

GOAL	DIMENSIONS	SECTION	NUMBER OF ITEMS SCORED	RELIABILITY	POSSIBLE RANGE OF SCORES
I Self Understanding	Control of environment Personal attributes Relating to others Achieving in school	E	53	.87	53-106
II Understanding Others	Race Religion Socioeconomic status	D	9	.77	9-45
III Basic Skills	Words and numbers	Stanford or Iowa	200+	.90+	200-800
IV Interest in School	Attitude toward school assignments Perception of the learning process Perception of the school climate	H	17	.75	17-85
V Citizenship	Personal responsibility attitudes Initiative in advocating change Personal responsibility applications Concern for democratic principles	I	44	.90	44-220
VI Health Habits	Health knowledge	C	48	.82	0-48
VII Creativity	Creative tendency	F	39	.82	39-195
VIII Vocational Development	Perception of work and the choice process Involvement in the choice process Judgment and independence in decision making Preference for particular vocational aspects	G	39	.77	39-78
IX Appreciating Human Accomplishment	Art, theater and music Science and literature Politics Sports	A	21	.79	21-63
X Preparing For A Changing World	Preparing for a changing world	B	29	.79	29-145

TABLE 11
GRADE 11 SUMMARY OF INSTRUMENTS

GOAL	DIMENSIONS	SECTION	NUMBER OF ITEMS SCORED	RELIABILITY	POSSIBLE RANGE OF SCORES
I Self Understanding	Control of environment Personal attributes Achieving in school Relating to others	C	54	.90	54-108
II Understanding Others	Appreciating others who differ	B	22	.88	22-110
III Basic Skills	Words and numbers	Stanford or Iowa	200+	.90+	200-800
IV Interest in School	Attitude toward school assignments Perception of the learning process Perception of the school climate	D	28	.85	28-140
V Citizenship	Personal responsibility attitudes Initiative in advocating change Personal responsibility applications Concern for democratic principles	F	44	.91	44-220
VI Health Habits	Health knowledge	A	75	.91	75-150
VII-P Creative Potential	Self-ratings of creative tendencies Tolerance of ambiguity Inner directedness	E	20	.78	20-100
VII-O Creative Output	Creative output	J	116	.93	116-314
VIII Vocational Development	Perception of work and the choice process Involvement in the choice process Judgment and independence in decision making Preference for particular vocational aspects	G	50	.89	50-100
IX Appreciating Human Accomplishments	Theater and art Sports, politics and science Music	H	77	.87	77-210
X Preparing For A Changing World	Preparing for a changing world	I	29	.81	29-145

CONDITION VARIABLES

Source of Condition Variable Data

In October of 1969 a survey was conducted of 20,000 fifth and 17,000 eleventh grade students in 355 elementary and 73 high schools across Pennsylvania. These schools act as the reference group for schools participating in Phase III. Students provided information on the occupation and education of their parents, the type of communities in which they were living, the availability of school resources, etc.

Concurrently, teachers and administrators employed in the above schools were also queried. The instructional staff sample was composed of 1,077 elementary and 852 secondary teachers. These teachers responded to a seventy-six item questionnaire that was designed to measure their job satisfaction, career aspirations, innovativeness in the classroom situation, etc. In addition to the information obtained from the teacher questionnaire, the Professional Personnel Record, developed by the Bureau of Statistics, was used to measure other condition variables such as: teacher experience, teacher education, teacher salary, and teacher sex.

A school information form was sent to school administrators to obtain data on the community and on various school programs. School financial data were collected from other Bureaus in the Education Department--primarily from the Bureau of Statistics.

How Raw Data Were Transformed into Condition Variables

An index score on each of the condition variables was computed for each participating school. In many cases, the original data submitted to the Bureau were in the form of specific responses to specific items on the school, teacher, and pupil questionnaires. Some of these items were translated into condition variable data by calculating ratio scores, such as number of teachers per pupil and books per pupil. Other items were scaled with weights predetermined according to the degree of presence of the characteristic that they were designed to measure. By averaging the weighted responses given by individuals to these items, mean index scores were computed for each school.

The indices fall into three major classes: school and community characteristics, instructional staff characteristics, and student characteristics. The indices are described in Tables III, IV, and V.

TABLE III
SCHOOL AND COMMUNITY INDICES

CLASS OF CHARACTERISTIC	VARIABLE NAME	MEASURE	WEIGHTING	INDEX DESCRIPTION
Program Resources	STAFFP (Staff:pupil ratio)	The number of personnel who spend at least one-half their time in instructional activity was divided by the total number of students in the school.		A higher value indicates more instructional personnel per pupil.
	BOOKSP (Books:pupil ratio)	The number of library books available for student checkout was divided by the total number of pupils in the school.		A higher value indicates more library books available for each pupil.
	INNOVATE (School innovation)	The school administrator reported the extent to which his school employed 12+ relatively new educational practices (e.g. individual study, non-graded classes, instructional TV).	5 = Use regularly 4 = Use occasionally 3 = Considered trying 2 = Don't agree 1 = Never tried	A higher score on this index indicates the school uses several innovative practices regularly and/or many of the practices at least occasionally.
	LIBRARY (Accessibility of library)	Students were asked how often they were able to use the school library.	5 = Often as needed 4 = Frequently 3 = Several days a week 2 = Only when class is scheduled 1 = No library in school	A higher score on this index indicates that the school offers freer accessibility to its library resources.
	COUNSEL* (Accessibility of counselors)	Eleventh grade students were asked how often they were able to talk to the school guidance counselor about a concern.	5 = Often as needed 4 = Frequently 3 = Only to make class schedules 2 = Only in group guidance session 1 = No guidance counselor	A higher score on this index indicates that the school offers freer access to its guidance staff.
	GUIDANCE* (Counselor: pupil ratio)	The number of school personnel who devoted at least one-half their time to guidance activities was divided by the total number of students within the school.		A higher value indicates more guidance counselors per pupil.
Financial Resources	SUBSIDY (School subsidy per WADM)	The state instructional subsidy paid to the school was divided by the Weighted Average Daily Membership.	Expressed in whole dollars.	A higher value indicates that the school of interest received more state funds to supplement its instructional activities.
	INSEXADM (Instructional expenses per ADM)	The instructional expense was divided by the Average Daily Membership.	Expressed in whole dollars.	A higher value indicates that the school expends relatively more funds per pupil for instruction.
	EFFORT (Tax Effort Index)	Budgeted school taxes for the district were divided by the assessed market values.	Expressed in mills.	A higher value indicates a greater willingness of the district to tax itself for educational purposes.

*For secondary schools only.

TABLE III: (continued)

CLASS OF CHARACTERISTIC	VARIABLE NAME	MEASURE	WEIGHTING	INDEX DESCRIPTION
Demographic Characteristics	ENROLL (School Enrollment)	The administrator reported the total school enrollment as of October 1, of a given year.		The number indicates the building enrollment.
	LOCATION (Predicted achievement index by location)	Secondary students reported the type of community in which they were then living. Due to substantial misinterpretation of this item by Fifth Grade pupils in the normative study, the EQA staff assigned scores to elementary schools based upon knowledge of size and location of the communities from which the school drew its students. In subsequent school studies, elementary pupils were aided by the teacher in reporting their community type.	8 = Suburb of city (over 500,000) 7 = Suburb of city (100,000 - 500,000) 6 = Suburb of city (10,000 - 100,000) 5 = Inside city (10,000 - 100,000) 4 = Inside city (100,000 - 500,000) 3 = Inside town less than 10,000 2 = Inside city over 500,000 1 = Open country or farming community	A higher score on this index indicates that the school is drawing a larger proportion of its students from suburban rather than rural or urban areas.
	INTERRAC (Interracial exposure)	Students reported whether or not they came in contact with students of a race different from their own in their classes or school activities.	2 = Yes 1 = No	A higher value on this index indicates greater interracial exposure in school.
	HOUSING (Types of residences in school's community)	The school administrator reported the percentage of various types of housing units in the area served by the school.	6 = Expensive private homes 5 = High-rental apartments 4 = Moderate-priced homes 3 = Moderate-rental apartments 2 = Low-cost homes 1 = Low-rental apartments	A higher value on this index indicates that the school serves an area that has a relatively larger proportion of expensive private homes and/or apartments.
	HOLDING (Holding power)	Holding power was computed by the formula: (Graduating class + transfers - new students) (enrollment of same class beginning tenth grade).	The term transfers refers to those students who have left the sample school after beginning Tenth Grade to attend another school.	A higher value indicates a relatively lower dropout rate.
	POSTGRAD (Continuing education)	The average percentage for two successive years of graduates who continued their education in college, vocational, technical, nursing, or business school was obtained for each sample school from the Pennsylvania Secondary School Report.		A higher value indicates a higher percentage of high school graduates continuing their formal education.

TABLE IV
INSTRUCTIONAL STAFF INDICES

CLASS OF CHARACTERISTIC	VARIABLE NAME	MEASURE	WEIGHTING	INDEX DESCRIPTION
Background	TMEDUC (Educational level of teacher's mother)	Sample teachers reported the highest level of formal education attained by their mother or female guardian.	9 = Completed Ph.D. or professional degree 8 = Some work toward Ph.D. or professional degree 7 = Masters degree 6 = Graduated, college 5 = Some post-high school 4 = Graduated, high school 3 = Some secondary 2 = Elementary 1 = No formal education	A higher value on this index indicates that the mothers of the school's instructional staff have attained a higher level of formal education.
	TFOCC (Occupational level of teacher's father)	The sample teachers reported the occupational category of their father or principal wage earner while they were growing up.	9 = Professional; doctor, lawyer 8 = Accountant, or manager 7 = Teacher 6 = Owner of small business 5 = White-collar 4 = Farmer 3 = Skilled worker 2 = Semi-skilled worker 1 = Unskilled	A higher value on this index indicates that the school's instructional staff comes from backgrounds in which the family's principal wage earner tended to be professional or white-collar workers as opposed to semi-skilled or unskilled.
	TLOCALE (Teacher locale)	Sample teachers reported where they graduated from high school.	5 = This town or immediate area 4 = In state but outside this town 3 = In another state 2 = In Puerto Rico or other U.S. possession 1 = In another country	A higher value on this index indicates that the school draws its instructional staff from the local area as opposed to other states or countries.
	TSTABL (Teacher stability)	Sample teachers reported the area in which they spent most of their lives.	Response alternatives and respective weighting were identical to TLOCALE.	A higher value on this index indicates that the school's instructional staff have spent most their lives in the immediate area as opposed to other states or countries.
	TCOLLEGE (Teacher's college)	Sample teachers reported whether or not they had earned a college degree and the type of college from which they graduated.	3 = Liberal arts college or university 2 = State college 1 = No degree	A higher score on this index indicates that more of the staff have degrees and are more likely to have attended a liberal arts college or university than a state college.
	TEDUC (Teacher's education)	The level of training of each teacher was obtained from the Professional Personnel Record.	9 = Doctor's degree 8 = Master's degree plus 2 years 7 = Master's degree plus 1 year 6 = Master's degree 5 = Bachelor's degree plus 1 year 4 = Bachelor's degree 3 = Three years of college 2 = Two years of college 1 = One year of college 0 = No college	A higher score on this index indicates that the school's instructional staff has a higher level of formal education.

TABLE IV: (continued)

CLASS OF CHARACTERISTIC	VARIABLE NAME	MEASURE	WEIGHTING	INDEX DESCRIPTION
Demographic	TAGE (Teacher's age)	Each sample teacher indicated his age by checking one of nine 5-year age categories.	9 = 60 or over 8 = 55 - 59 7 = 50 - 54 6 = 45 - 49 5 = 40 - 44 4 = 35 - 39 3 = 30 - 34 2 = 25 - 29 1 = 20 - 24	This index reflects the mean age, by categories, of a school's instructional staff.
	TSEX (Teacher sex)	The sex of each teacher was obtained as reported in the Professional Personnel Record.	2 = Female 1 = Male	A higher value on this index represents a higher proportion of female teachers within the school.
	TEXPER (Teacher experience)	The total years of service in education was obtained for each teacher from the Professional Personnel Record.		This number represents the mean educational experience, in years, of the school's instructional staff.
	TPPOS (Teacher present position)	Each sample teacher reported the number of years he had completed in his present position.	8 = 20 or more years 7 = 16 - 20 years 6 = 11 - 15 years 5 = 6 - 10 years 4 = 3 - 5 years 3 = 2 years 2 = 1 year 1 = Less than 1 year	This index reflects the degree to which a school's instructional staff have remained in their present positions.
	TSALARY (Teacher salary)	The salary for each teacher was obtained from the Professional Personnel Record.		This value represents the mean salary for a school's instructional staff.
Attitudinal	TSATISF (Teacher satisfaction)	Each sample teacher responded to a 6-item questionnaire which was scaled to reflect the degree of his satisfaction with his role in the school. (Example: "I find my job exciting and rewarding.")	5 = Almost always 4 = Frequently 3 = Sometimes 2 = Infrequently 1 = Almost never	A higher value on this index indicates a greater degree of job satisfaction of the school's instructional staff.
	TCLPRACT (Teacher classroom practices)	Each sample teacher reported the extent to which he employed 11 "innovative" classroom practices (e.g., pupil participation in lesson planning).	5 = Use regularly 4 = Use occasionally 3 = Considered its use 2 = Never use 1 = Don't agree with practice	The value on this index indicates the extent to which relatively innovative classroom practices are employed by the sample teachers.
	REACTL (Perception of actual characteristics influencing professional recognition)	From a list of 7 characteristics, the sample teacher chose the one he felt was actually most important in gaining professional recognition in his school district.	7 = Rapport with central office 6 = Rapport with immediate supervisor 5 = Formal education 4 = Seniority 3 = Imaginativeness 2 = Dependability 1 = Quality and quantity of work	A higher value on this index indicates that the instructional staff perceives professional recognition to be achieved through personal relationships as opposed to quality and quantity of work completed.

TABLE IV: (continued)

CLASS OF CHARACTERISTIC	VARIABLE NAME	MEASURE	WEIGHTING	INDEX DESCRIPTION
Attitudinal	RECIDEA (Perception of "ideal" characteristics influencing professional recognition)	From a list of 7 characteristics, sample teachers chose the one they felt should ideally be most important in gaining professional recognition in their school district.	Same codes were used as for REACTL.	A higher value on this index indicates that the instructional staff feels that ideally professional recognition is obtained through personal relationships as opposed to quality and quantity of work completed.
	TCAREER (Teacher career)	Sample teachers selected from ten choices what they would like to be doing five years from now.	10 = Will be retired 9 = Teacher 8 = Special services 7 = Research worker 6 = Guidance 5 = Curriculum director 4 = Principal 3 = Administrator in central office 2 = Superintendent 1 = Out of education	A higher score on this index indicates that the career aspirations of the instructional staff tend toward classroom involvement.
	DISCREPAC (Discrepancy)	Sample teachers rated the relative influence 14 groups (superintendent, parents, teachers, etc.) had on the educational process. They then rated the ideal influence of each of those groups. For each of the 14 groups a real-ideal discrepancy was computed. A total discrepancy score was obtained: $D = \frac{\sqrt{\sum d^2}}{14}$	5 = Great deal 4 = Considerable 3 = Some 2 = Little 1 = None	A higher discrepancy score indicates a greater disparity between what the instructional staff sees as the actual and the ideal influences various groups have in determining educational matters in the school.

TABLE V
STUDENT INDICES

CLASS OF CHARACTERISTIC	VARIABLE NAME	MEASURE	WEIGHTING	INDEX DESCRIPTION
Background	FOCC (Father's occupation)	The sample Eleventh Grade student reported his father's occupation from a list of 148 possible occupations. On the elementary level the student's teacher completed this item.	The occupational categories were weighted from 0 to 96 according to a combination of education needed to secure the occupation and income derived from the occupation.	A higher value on this index indicates that the school tends to draw a large proportion of its students from homes where the fathers are employed in higher-paying jobs requiring a higher educational level.
	MOCC (Mother's occupation)	The sample Eleventh Grade student reported his mother's occupation from a list of 148 possible occupations. On the elementary level the student's teacher completed this item.	Using mothers who were gainfully employed (i.e., excluding housewives, mothers in school, pensioned, or deceased), a mean was calculated for each sample school. Weights applied were identical to those used in FOCC.	A school high on this index draws a greater proportion of its students from homes in which the working mothers are more likely to be employed in higher-paying jobs and/or jobs requiring a higher educational level.
	PCTMW (Percentage of mothers working)	From the sample student's report of MOCC, the percentage of working mothers was calculated.		This score reflects the percentage of working mothers.
	FAMSES (Family socioeconomic status)	The family socioeconomic status for a school was calculated by the formula: $\frac{(\sum \text{FOCC for } n_1 \text{ fathers} + \sum \text{MOCC for } n_2 \text{ mothers})}{\text{greater of } n_1 \text{ and } n_2}$		This index is a composite of MOCC and FOCC levels of the school.
	MEDUC (Mother's education)	The sample Eleventh Grade student reported the highest level of formal education attained by his mother or female guardian. On the elementary level the student's teacher completed this item.	The same weighting system was used as for TMEDUC. Due to substantial scoring errors this variable was dropped for grade 11.	A higher value on this index indicates that the school draws students from homes in which the mothers have attained a higher average level of formal education.
	FEDUC (Father's education)	The student reported the highest level of formal education attained by his father or male guardian. On the elementary level the student's teacher completed this item.	The same weighting system was used as for TMEDUC. Due to substantial scoring errors this variable was dropped for grade 11.	A higher value on this index indicates that the school draws students from homes in which the fathers have attained a higher average level of formal education.
Attitudinal	MORESB* (Mores--Boys)	The sample student reported, from a list of 5 qualities, his perception of the single best way for a boy to be important or looked up to by other students in his school.	5 = Being bright, well-informed, interesting 4 = Doing well in school 3 = Being attractive, fun 2 = Being athletic star 1 = Coming from the right family	A higher score on this index indicates that students perceive intellectual factors as relatively more important than social factors or athletics in determining a boy's popularity.

*For secondary schools only.

TABLE V: (continued)

CLASS OF CHARACTERISTIC	VARIABLE NAME	MEASURE	WEIGHTING	INDEX DESCRIPTION
Attitudinal	MORESG* (Mores--Girls)	The sample student reported, from a list of 5 qualities, his perception of the single best way for a girl to be important or looked up to by other students in his school.	5 = Being bright, well-informed, interesting 4 = Doing well in school 3 = Being attractive, fun 2 = Being a cheerleader 1 = Coming from the right family	A higher score on this index indicates that the student body of the school tends to perceive intellectual factors as relatively more important than social factors in determining a girl's popularity.
	VALUES* (Personal values)	From a list of the same 5 qualities as MORESB and MORESG, the sample student reported that quality which was most important to him personally regardless of what others may choose.	5 = Being bright, well-informed, interesting 4 = Doing well in school 3 = Being attractive, fun 2 = Being athletic star or cheerleader 1 = Coming from the right family	A higher score on this index indicates that the members of the student body tend to perceive intellectual pursuits as more productive in gaining peer group recognition than social status factors.
	OCDESIRE* (Occupational desire)	From the same list of 148 occupations used for FOCC and MOCC, the sample student reported the occupation he desires to follow.	The weightings employed were identical to those used for FOCC.	This index indicates the mean occupational level the students desire to attain.
	OCEXPECT* (Occupational expectation)	From the same list OCDESIRE, the sample student reported the occupation he expected to follow.	The weightings were identical to those used for FOCC.	This index indicates the mean occupational level the students expect to attain.
Demographic	SEX (Sex of students)	The sample student reported his or her sex.	2 = Female 1 = Male	A higher value on this index represents a higher proportion of female students.
	RACE (Predicted achievement index by race)	From a list of six ethnic and racial categories each sample student chose the category that best described him.	6 = Oriental 5 = White 4 = American Indian 3 = Puerto Rican 2 = Black 1 = Other	This variable was scaled in such a way that the index is a predicted-achievement index by racial composition. Weights were assigned on the basis of the groups' rank-order achieved scores as reported by Coleman.
	LPL (Level of previous learning)	60-item timed tests for Grades 5 and 11 contained two subsections: verbal and quantitative.	The scores on the verbal and quantitative sections of the test were summed to obtain a total test score.	The LPL instrument can be considered to reflect the achievement level of the students at the time of testing.
	ABSENCE	The sample student reported the number of days he was absent during the past school year.	5 = None 4 = 1 - 5 days 3 = 6 - 10 days 2 = 11 - 15 days 1 = 16 or more days	A lower value on this index represents a greater degree of student absenteeism within the school.

*For secondary schools only.

CONSTRUCTION OF EDUCATION PROFILES

At the present time all goal inventories used by the Bureau of Educational Quality Assessment are "norm-referenced" as opposed to "criterion-referenced" measures. The former types of tests are used to ascertain a school's performance in relationship to other schools on the same measuring device. It is mandatory when using inventories such as these to offer the participating Phase III school several relevant comparison groups which can aid the school's administrators to evaluate their school's scores on the inventories.

As a first step in this direction the Bureau prepared separate norm tables from the 5th and 11th grade assessment data on (1) each of the ten quality education instruments and (2) each of the condition variables.

Pennsylvania School Norms: Quality Education Inventories

For these norms the unit of analysis was the school mean. The norm tables were constructed by computing a percentile distribution for each assessment instrument. Each percentile distribution is a ranking of mean school scores which is divided into 100 equal parts. Each part has an equal number--one per cent--of the total number of school scores.

A "percentile" can be described as a point on this 100-point scale which gives the per cent of cases that fall below that particular point. For example, a school whose test score places it at the 70th percentile rank equals or exceeds 70 per cent of the sample on which the test was standardized. This score can also be interpreted to mean that the remaining 30 per cent of the schools in the standardization group exceeded its test performance.

The two tables entitled "Pennsylvania School Norms--Grade 5 and Grade 11" express the distributions on the Quality Education instruments for the 355 elementary schools and 73 secondary schools sampled to establish norms.

On these tables the column on the far left represents the percentile ranks of the distributions. The numbers in the main body of the table are the raw score equivalents on each instrument corresponding to a given percentile rank.

The norm tables also present the mean and standard deviation of the distribution of scores for each instrument.

TABLE VI

PENNSYLVANIA SCHOOL NORMS-GRADE 5

DEBE-222 (10/70)

PERCENTILE DISTRIBUTION	Percentile Rank	INSTRUMENT										Percentile Rank
		SELF UNDERSTANDING	UNDERSTANDING OTHERS	BASIC SKILLS	INTEREST IN SCHOOL	CITIZENSHIP	HEALTH HABITS	CREATIVITY	VOCATIONAL DEVELOPMENT	APPRECIATING HUMAN ACCOMPLISHMENT	PREPARING FOR A CHANGING WORLD	
	Above											Above
	95	90.95	34.75	556	62.75	171.12	31.96	145.67	62.57	54.21	108.80	95
	90	89.94	34.23	546	61.88	168.65	31.16	144.46	61.87	53.76	106.52	90
	85	89.19	33.82	537	61.15	167.22	30.54	143.28	61.42	53.33	105.07	85
	80	88.74	33.59	531	60.70	166.37	30.23	142.34	61.14	53.00	104.19	80
	75	88.32	33.36	526	60.25	165.53	29.91	141.48	60.87	52.66	103.31	75
	70	87.94	33.12	520	59.82	164.69	29.59	140.62	60.63	52.47	102.63	70
	65	87.64	32.92	516	59.51	163.85	29.29	139.88	60.46	52.31	102.03	65
	60	87.35	32.73	512	59.21	163.03	29.02	139.20	60.29	52.16	101.43	60
	55	87.06	32.54	508	58.90	162.21	28.75	138.53	60.12	52.00	100.84	55
	50	**86.78**	**32.34**	**504**	**58.60**	**161.39**	**28.48**	**137.85**	**59.94**	**51.85**	**100.34**	**50**
	45	86.50	32.17	500	58.28	160.57	28.21	137.17	59.76	51.69	99.85	45
	40	86.22	32.00	495	57.96	159.40	27.85	136.49	59.57	51.52	99.36	40
	35	85.94	31.83	489	57.64	158.01	27.48	135.80	59.38	51.36	98.87	35
	30	85.65	31.66	483	57.32	156.62	27.11	135.12	59.19	51.19	98.37	30
	25	85.37	31.44	478	56.96	155.12	26.67	134.18	58.95	51.03	97.81	25
	20	85.09	31.12	472	56.43	153.61	26.19	133.17	58.63	50.73	97.26	20
	15	84.80	30.80	466	55.89	151.79	25.68	132.09	58.32	50.42	96 70	15
	10	84.20	30.28	455	54.98	149.57	24.91	130.56	57.81	50.03	96.03	10
	5	83.31	29.64	440	53.36	146.40	23.73	128.06	57.18	49.46	94 10	5
	Below											Below
MEAN		86.90	32.33	501	58.45	160.25	28.20	137.64	59.90	51.80	100 76	
STANDARD DEVIATION		2.21	1.56	035	2.78	7.49	2.44	5.32	1.60	1.60	4 57	

TABLE VII

PENNSYLVANIA SCHOOL NORMS - GRADE 11

DEBE-226 (10/70)

	Percentile Rank	INSTRUMENT											Percentile Rank
		SELF UNDERSTANDING	UNDERSTANDING OTHERS	BASIC SKILLS	INTEREST IN SCHOOL	CITIZENSHIP	HEALTH HABITS	CREATIVE POTENTIAL	CREATIVE OUTPUT	VOCATIONAL DEVELOPMENT	APPRECIATING HUMAN ACCOMPLISHMENTS	PREPARING FOR A CHANGING WORLD	
PERCENTILE DISTRIBUTION	Above												Above
	95	91.59	94.73	535	99.42	175.86	126.64	62.95	141.33	85.36	165.05	110.03	95
	90	90.79	93.86	524	97.77	173.69	125.90	62.29	139.97	84.99	163.20	109.12	90
	85	90.41	93.14	521	96.66	172.45	125.23	61.89	139.28	84.73	161.92	108.50	85
	80	90.18	92.84	518	95.54	171.78	124.65	61.69	138.83	84.56	161.36	108.14	80
	75	89.96	92.55	515	94.84	171.10	124.19	61.48	138.38	84.39	160.81	107.78	75
	70	89.74	92.26	512	94.39	170.43	123.73	61.28	137.94	84.22	160.27	107.41	70
	65	89.56	91.95	507	93.95	169.68	123.26	61.06	137.49	84.10	159.80	107.04	65
	60	89.38	91.63	500	93.50	168.89	122.62	60.82	137.05	83.99	159.33	106.65	60
	55	89.20	91.31	496	93.11	168.10	121.9[illegible]	60.58	136.70	83.87	158.86	106.26	55
	50	**89.02**	**91.10**	**494**	**92.78**	**167.38**	**121.41**	**60.35**	**136.46**	**83.78**	**158.42**	**105.87**	**50**
	45	88.82	90.90	492	92.44	166.75	121.06	60.09	136.21	83.64	157.98	105.50	45
	40	88.61	90.69	490	92.11	166.12	120.71	59.84	135.96	83.46	157.54	105.13	40
	35	88.41	90.48	487	91.78	165.49	120.35	59.58	135.72	83.26	157.11	104.77	35
	30	88.20	90.25	485	91.44	164.77	120.00	59.31	135.47	83.06	156.69	104.41	30
	25	87.88	89.96	482	90.96	163.93	119.50	59.03	135.14	82.87	156.29	103.93	25
	20	87.52	89.67	478	90.48	163.07	118.96	58.75	134.82	82.69	155.88	103.32	20
	15	87.13	89.38	473	90.00	162.16	118.41	58.43	134.49	82.51	155.47	102.72	15
	10	86.71	88.79	465	89.36	161.11	117.63	58.09	134.16	82.07	154.61	101.94	10
	5	86.19	88.11	453	88.02	160.06	116.77	57.68	132.34	81.33	153.49	100.97	5
	Below												Below
MEAN		88.94	91.30	497	93.28	167.64	121.56	60.31	136.83	83.61	158.71	105.71	
STANDARD DEVIATION		1.58	1.91	027	3.67	5.18	3.29	1.69	2.69	1.21	3.35	2.98	

Pennsylvania School Norms: Condition Variables

Pupil achievements in the goal areas must be considered in light of surrounding conditions. The assessment model takes into consideration those factors the pupil brings with him, those particular conditions the surrounding community offers him, and those school characteristics which affect him.

In order to give the Phase III school personnel information on how the school stands in relation to other schools in the state on these condition variables, percentile distributions were constructed from the Phase II educational correlate data. Tables VIII, IX, and X represent the Grade 5 condition variable norms and Tables XI, XII, and XIII the Grade 11 norms. The mean and standard deviation of each index are also displayed on these tables.

Caution must be used when interpreting these condition variable norms. High percentile ranks on these indices do not necessarily indicate that the school of interest has more favorable conditions with which to work. Indeed, many of the indices show negative relationships with achievement on the educational goal instruments. Condition variable indices are included in this manual to give Phase III school personnel a clearer picture on how these conditions are distributed across the state. When using these tables it is important to keep in mind how each of the indices was constructed.

TABLE VIII

PERCENTILE DISTRIBUTION OF SCHOOL AND COMMUNITY INDICES FOR ELEMENTARY SCHOOLS

DEBE-789 (11/70)

	Percentile Rank	CHARACTERISTICS											Percentile Rank
		PROGRAM RESOURCE				FINANCIAL RESOURCE			DEMOGRAPHIC				
		STAFFP	BOOKSP	INNOVATE	LIBRARY	SUBSIDY	INSEXADM	EFFORT	ENROLL	LOCATION	INTERAC	HOUSING	
PERCENTILE DISTRIBUTION	Above												Above
	95	.052	28.64	46.22	4.61	345	506	31.58	851	5.92	1.83	4.33	95
	90	.049	18.59	42.89	4.49	326	466	29.08	714	4.96	1.74	4.18	90
	85	.046	16.54	40.13	4.36	309	440	27.54	592	4.65	1.66	4.04	85
	80	.045	14.49	38.75	4.24	300	429	26.75	531	4.34	1.59	3.93	80
	75	.043	12.44	37.38	4.11	292	418	25.96	473	3.58	1.54	3.83	75
	70	.042	11.06	36.05	3.98	284	410	25.21	429	3.14	1.49	3.74	70
	65	.041	10.39	34.99	3.85	276	402	24.48	387	2.80	1.45	3.65	65
	60	.040	9.72	33.94	3.71	268	394	23.76	345	2.50	1.42	3.54	60
	55	.039	9.06	32.89	3.56	260	388	23.29	309	2.29	1.39	3.43	55
	50	.038	8.39	31.86	3.42	252	383	22.92	274	2.08	1.37	3.33	50
	45	.037	7.72	30.88	3.28	243	377	22.55	238	1.87	1.35	3.22	45
	40	.036	7.05	29.90	3.15	235	372	22.18	211	1.68	1.33	3.11	40
	35	.036	6.39	28.91	3.02	227	367	21.81	193	1.57	1.30	3.00	35
	30	.035	5.72	27.88	2.92	219	361	21.37	174	1.47	1.28	2.89	30
	25	.034	5.05	26.62	2.82	207	354	20.79	155	1.36	1.25	2.71	25
	20	.033	4.39	25.37	2.72	192	348	20.21	137	1.26	1.22	2.53	20
	15	.033	3.72	24.11	2.60	175	341	19.63	118	1.15	1.19	2.37	15
	10	.032	3.05	21.38	2.38	156	331	18.69	99	1.05	1.14	2.21	10
	5	.029	0.93	16.67	2.08	136	320	17.70	38	1.00	1.06	1.98	5
	Below												Below
STATE MEAN		0.039	11.38	32.16	3.43	246	392	23.55	343	2.56	1.40	3.25	
STATE STANDARD DEVIATION		0.007	16.84	8.07	0.79	62	53	4.00	244	1.72	0.22	0.73	

TABLE IX

PERCENTILE DISTRIBUTION OF INSTRUCTIONAL STAFF INDICES FOR ELEMENTARY SCHOOLS

DEBE-787 (11/70)

	Percentile Rank	CHARACTERISTICS																	Percentile Rank
		BACKGROUND						DEMOGRAPHIC					ATTITUDINAL						
		TMEDUC	TFOCC	TLOCALE	TCOLLEGE	TEDUC	TSTABL	TAGE	TSEX	TEXPER	TPPOS	SALARY	TSATISF	TCLPRAC	REACTL	RECIDEA	TCAREER	DISCREP	
PERCENTILE DISTRIBUTION	Above																		Above
	95	5.18	6.36	5.14	3.00	4.78	5.06	8.10	2.00	27.90	7.34	9756	25.90	46.74	6.33	2.90	9.75	6.26	95
	90	4.81	5.82	5.06	2.93	4.59	5.01	7.31	2.00	24.12	6.60	9364	24.81	45.92	5.39	2.53	9.34	5.61	90
	85	4.52	5.46	4.78	2.65	4.43	4.96	6.75	2.00	22.23	6.05	9109	23.98	45.10	4.90	2.27	9.02	5.29	85
	80	4.36	5.14	4.74	2.59	4.31	4.91	6.40	1.99	20.80	5.77	8956	23.52	44.64	4.44	2.08	8.84	4.97	80
	75	4.24	4.83	4.68	2.53	4.19	4.73	6.13	1.97	19.54	5.50	8817	23.07	44.19	4.03	1.93	8.67	4.80	75
	70	4.12	4.62	4.64	2.47	4.13	4.64	5.86	1.93	18.32	5.27	8739	22.67	43.73	3.68	1.80	8.49	4.65	70
	65	4.00	4.44	4.60	2.41	4.07	4.60	5.57	1.90	17.31	5.11	8658	22.38	43.28	3.40	1.68	8.32	4.49	65
	60	3.83	4.26	4.49	2.36	4.02	4.56	5.18	1.88	16.30	4.95	8578	22.10	42.81	3.12	1.61	8.12	4.33	60
	55	3.66	4.07	4.35	2.31	3.97	4.53	4.79	1.86	15.29	4.79	8498	21.81	42.34	2.91	1.55	7.86	4.17	55
	50	3.48	3.89	4.30	2.25	3.92	4.49	4.50	1.85	14.52	4.63	8426	21.52	41.87	2.73	1.49	7.60	4.04	50
	45	3.32	3.71	4.25	1.99	3.86	4.44	4.25	1.83	13.74	4.44	8355	21.17	41.41	2.56	1.42	7.34	3.91	45
	40	3.16	3.53	4.20	1.95	3.76	4.39	4.00	1.81	12.96	4.25	8285	20.78	40.95	2.38	1.36	7.02	3.78	40
	35	3.02	3.36	4.15	1.91	3.67	4.34	3.75	1.79	12.18	4.06	8214	20.40	40.50	2.19	1.31	6.69	3.65	35
	30	2.91	3.19	4.11	1.88	3.57	4.29	3.43	1.77	11.39	3.87	8143	20.00	40.04	1.94	1.26	6.36	3.52	30
	25	2.81	3.02	4.06	1.84	3.49	4.02	3.10	1.75	10.59	3.59	8040	19.53	39.37	1.69	1.22	6.05	3.37	25
	20	2.70	2.85	4.02	1.80	3.40	3.96	2.77	1.72	9.79	3.31	7936	19.06	38.64	1.44	1.18	5.73	3.17	20
	15	2.60	2.64	3.98	1.73	3.31	3.90	2.41	1.69	8.99	3.00	7832	18.54	37.82	1.23	1.13	5.38	2.98	15
	10	2.24	2.32	3.93	1.62	3.17	3.84	2.04	1.65	7.64	2.65	7670	17.87	36.87	1.02	1.09	4.91	2.78	10
	5	1.94	1.96	3.59	1.47	2.96	3.71	1.55	1.53	6.26	2.17	7478	16.85	35.50	1.00	1.04	3.81	2.38	5
	Below																		Below
STATE MEAN		3.52	4.08	4.36	2.23	3.87	4.46	4.68	1.82	15.33	4.60	8488	21.41	41.67	3.03	1.69	7.30	4.19	
STATE STANDARD DEVIATION		0.93	1.34	0.43	0.45	0.06	0.43	1.92	0.17	6.40	1.48	693	2.70	3.44	1.60	0.69	1.79	1.52	

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TABLE X

PERCENTILE DISTRIBUTION OF STUDENT INDICES FOR ELEMENTARY SCHOOLS

DEBE-785 (11/70)

PERCENTILE DISTRIBUTION	Percentile Rank	CHARACTERISTICS										Percentile Rank
		BACKGROUND					DEMOGRAPHIC					
		FOCC	MOCC	PCTMW	FAMSES	MEDUC	FEDUC	SEX	RACE	LPL	ABSENCE	
	Above 95	54.14	54.07	50.07	63.21	4.52	5.03	1.658	5.04	38.65	4.31	Above 95
	90	46.57	49.27	43.03	55.51	4.29	4.63	1.596	5.02	37.88	4.24	90
	85	42.41	45.53	38.27	50.65	4.18	4.35	1.577	5.01	37.11	4.16	85
	80	39.52	43.32	36.15	47.72	4.07	4.14	1.561	5.00	36.49	4.11	80
	75	37.05	41.27	34.03	44.87	4.00	4.07	1.545	4.98	35.88	4.06	75
	70	35.72	39.23	32.03	42.77	3.95	4.00	1.532	4.97	35.28	4.01	70
	65	34.49	37.46	30.49	41.08	3.90	3.94	1.520	4.96	34.89	3.98	65
	60	33.07	35.71	28.95	39.39	3.84	3.87	1.509	4.94	34.50	3.94	60
	55	31.76	33.96	27.41	37.70	3.79	3.80	1.498	4.93	34.12	3.91	55
	50	30.54	32.19	25.83	36.01	3.74	3.74	1.486	4.92	33.73	3.87	50
	45	29.31	30.38	23.86	34.32	3.70	3.68	1.476	4.90	33.29	3.83	45
	40	28.09	28.57	21.89	32.62	3.65	3.62	1.465	4.89	32.78	3.79	40
	35	26.87	26.77	19.92	30.93	3.60	3.56	1.454	4.88	32.27	3.74	35
	30	25.61	25.08	17.98	29.26	3.56	3.50	1.443	4.86	31.75	3.69	30
	25	24.36	23.38	16.04	27.60	3.51	3.43	1.430	4.85	31.23	3.64	25
	20	23.10	21.69	14.10	25.93	3.43	3.32	1.413	4.83	30.71	3.59	20
	15	21.85	19.58	11.50	24.26	3.33	3.20	1.396	4.74	30.19	3.53	15
	10	19.66	16.94	8.46	21.13	3.23	3.09	1.372	4.63	29.09	3.38	10
	5	16.68	13.48	4.35	17.89	3.00	2.77	1.316	4.26	27.49	3.24	5
	Below											Below
STATE MEAN		32.02	32.95	26.00	37.29	3.77	3.80	1.49	4.84	33.53	3.85	
STATE STANDARD DEVIATION		10.76	12.21	12.66	13.15	0.54	0.71	0.10	0.42	3.47	0.33	

TABLE XI

PERCENTILE DISTRIBUTION OF SCHOOL AND COMMUNITY INDICES FOR SECONDARY SCHOOLS

DEBE-790 (11/70)

PERCENTILE DISTRIBUTION	Percentile Rank	CHARACTERISTICS															Percentile Rank
		PROGRAM RESOURCE						FINANCIAL RESOURCE			DEMOGRAPHIC						
		STAFFP	BOOKSP	INNOVATE	LIBRARY	COUNSEL	GUIDANCE	SUBSIDY	INSEXADM	EFFORT	ENROLL	LOCATION	INTERRAC	HOUSING	HOLDING	POSTGRAD	
	Above																Above
	95	.067	20.15	43.12	4.75	4.88	.0043	344	527	29.26	2533	6.10	1.98	4.26	99.99	80.74	95
	90	.064	15.38	41.43	4.68	4.81	.0030	330	482	27.02	2185	5.40	1.95	4.12	99.48	69.73	90
	85	.062	14.26	40.28	4.63	4.74	.0030	317	428	25.88	1664	5.03	1.92	3.98	98.63	64.21	85
	80	.060	13.14	39.14	4.60	4.67	.0029	308	420	24.89	1386	4.67	1.89	3.87	97.80	61.56	80
	75	.057	12.38	37.64	4.56	4.63	.0029	300	413	24.50	1232	4.30	1.86	3.78	97.06	58.92	75
	70	.055	11.66	35.92	4.53	4.61	.0028	292	406	24.19	1093	3.94	1.82	3.68	96.32	56.76	70
	65	.054	10.95	34.51	4.49	4.58	.0028	284	398	23.87	964	3.42	1.75	3.59	95.57	54.73	65
	60	.052	10.24	33.53	4.45	4.56	.0027	276	393	23.55	898	2.96	1.67	3.49	94.83	52.69	60
	55	.051	9.74	32.55	4.41	4.54	.0027	268	388	23.24	832	2.77	1.51	3.39	93.74	50.77	55
	50	.051	9.23	31.57	4.38	4.52	.0026	259	383	22.92	765	2.58	1.32	3.30	92.56	49.22	50
	45	.050	8.73	30.43	4.34	4.50	.0021	251	379	22.59	699	2.38	1.22	3.16	91.38	47.66	45
	40	.049	8.22	29.18	4.31	4.48	.0020	242	374	22.26	633	2.19	1.17	3.01	90.39	46.10	40
	35	.049	7.72	27.93	4.27	4.45	.0020	233	369	21.93	571	2.03	1.13	2.88	89.40	44.55	35
	30	.048	7.22	26.68	4.24	4.41	.0019	223	365	21.60	515	1.87	1.08	2.78	88.41	42.99	30
	25	.047	6.72	25.43	4.21	4.37	.0019	213	358	21.27	459	1.71	1.04	2.68	87.17	41.44	25
	20	.046	6.22	24.18	4.16	4.34	.0018	198	351	20.82	404	1.54	1.00	2.59	85.86	39.88	20
	15	.045	5.71	22.67	4.08	4.27	.0018	182	343	19.43	348	1.36	1.00	2 45	84.35	38.33	15
	10	.044	5.21	20.95	3.90	4.17	.0017	158	336	18.21	292	1.12	1.00	2.32	82.37	36.77	10
	5	.041	4.43	18.17	3.71	4.03	.0010	123	323	16.94	237	1.00	1.00	2.13	78.13	28.13	5
	Below																Below
STATE MEAN		.053	10.27	31.16	4.34	4.48	.0026	249	396	22.88	974	3.03	1.44	3.26	91.42	51 13	
STATE STANDARD DEVIATION		.009	5.51	7.53	0.31	0.32	.0009	67	64	3.81	763	1.60	0.38	0.69	6.50	14 49	

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TABLE XII

PERCENTILE DISTRIBUTION OF INSTRUCTIONAL STAFF INDICES FOR SECONDARY SCHOOLS

DEBE-786 (11/70)

PERCENTILE DISTRIBUTION	Percentile Rank	CHARACTERISTICS																	Percentile Rank
		BACKGROUND						DEMOGRAPHIC					ATTITUDINAL						
		TMEDUC	TFOCC	TLOCALE	TCOLLEGE	TEDUC	TSTABL	TAGE	TSEX	TEXPER	TPPOS	SALARY	TSATISF	TCLPRACT	REACTL	RECIDEA	TCAREER	DISCREP	
	Above																		Above
	95	4.46	5.84	4.84	2.86	5.41	4.91	6.56	1.564	18.40	6.30	9889	23.23	42.29	5.02	2.37	9.21	5.98	95
	90	4.31	5.45	4.74	2.76	5.21	4.77	5.49	1.535	16.59	6.02	9293	22.27	41.42	4.70	2.24	8.78	5.41	90
	85	4.20	5.16	4.63	2.69	5.07	4.67	5.12	1.482	15.55	5.80	9167	21.74	40.65	4.47	2.09	8.37	5.10	85
	80	4.07	5.01	4.60	2.66	4.97	4.63	4.92	1.462	14.85	5.60	9041	21.49	40.14	4.25	2.00	8.19	4.94	80
	75	3.94	4.85	4.56	2.62	4.88	4.59	4.72	1.443	14.16	5.42	8925	21.23	39.72	4.04	1.94	8.01	4.78	75
	70	3.88	4.70	4.53	2.58	4.79	4.55	4.61	1.428	13.65	5.25	8826	20.97	39.30	3.84	1.88	7.85	4.66	70
	65	3.84	4.60	4.49	2.55	4.70	4.53	4.51	1.417	13.30	5.13	8727	20.75	38.90	3.66	1.80	7.74	4.56	65
	60	3.80	4.51	4.45	2.52	4.64	4.51	4.40	1.406	12.96	5.01	8628	20.53	38.52	3.49	1.72	7.64	4.45	60
	55	3.76	4.41	4.41	2.48	4.61	4.48	4.29	1.395	12.61	4.89	8540	20.31	38.13	3.32	1.64	7.53	4.35	55
	50	3.72	4.32	4.36	2.46	4.57	4.46	4.18	1.384	12.27	4.78	8463	20.10	37.80	3.19	1.57	7.43	4.27	50
	45	3.68	4.22	4.32	2.42	4.54	4.44	4.02	1.368	11.86	4.68	8386	19.92	37.53	3.08	1.51	7.32	4.20	45
	40	3.62	4.06	4.27	2.37	4.50	4.39	3.85	1.352	11.42	4.59	8309	19.74	37.25	2.98	1.45	7.17	4.12	40
	35	3.53	3.91	4.22	2.33	4.46	4.33	3.68	1.336	10.97	4.50	8233	19.55	36.98	2.87	1.39	7.02	4.04	35
	30	3.44	3.75	4.18	2.30	4.42	4.28	3.54	1.324	10.53	4.41	8143	19.37	36.71	2.76	1.34	6.87	3.97	30
	25	3.34	3.58	4.14	2.27	4.37	4.23	3.42	1.311	9.75	4.27	8043	19.09	36.26	2.57	1.29	6.71	3.81	25
	20	3.24	3.41	4.09	2.24	4.33	4.18	3.30	1.298	8.86	4.11	7944	18.71	35.75	2.39	1.24	6.55	3.63	20
	15	3.13	3.10	4.04	2.20	4.29	4.13	3.18	1.284	8.27	3.95	7846	18.29	35.16	2.15	1.15	6.38	3.47	15
	10	3.02	2.85	3.97	2.14	4.22	4.03	3.06	1.264	7.76	3.69	7706	17.77	34.39	1.78	1.03	6.17	3.32	10
	5	2.87	2.51	3.82	2.07	4.15	3.93	2.23	1.245	7.24	3.38	7552	17.09	33.53	1.47	1.00	5.78	3.17	5
	Below																		Below
STATE MEAN		3.66	4.22	4.35	2.45	4.67	4.42	4.17	1.386	12.13	4.81	8579	20.12	37.91	3.27	1.63	7.33	4.35	
STATE STANDARD DEVIATION		0.50	0.94	0.29	0.24	0.39	0.27	1.12	0.096	3.41	0.86	759	1.69	2.53	1.01	0.41	1.08	0.80	

TABLE XIII

PERCENTILE DISTRIBUTION OF STUDENT INDICES FOR SECONDARY SCHOOLS

DEBE-786 (11/70)

PERCENTILE DISTRIBUTION	Percentile Rank	CHARACTERISTICS													Percentile Rank
		BACKGROUND				ATTITUDINAL					DEMOGRAPHIC				
		FOCC	MOCC	PCTMW	FAMSES	MORESB	MORESG	VALUES	OCDESIRE	OCEXPECT	SEX	RACE	LPL	ABSENCE	
	Above														Above
	95	59.15	53.76	48.77	72.36	4.00	3.91	4.23	66.37	65.76	1.635	5.01	39.98	3.81	95
	90	53.21	50.94	44.78	68.44	3.78	3.76	4.18	64.10	63.77	1.596	5.00	38.52	3.75	90
	85	50.03	47.62	41.54	64.11	3.65	3.62	4.10	62.18	62.23	1.577	4.98	37.52	3.69	85
	80	46.58	45.67	39.16	58.90	3.56	3.54	4.07	61.45	60.75	1.567	4.97	36.99	3.64	80
	75	42.88	44.29	37.14	53.09	3.53	3.52	4.05	60.73	59.60	1.556	4.96	36.46	3.61	75
	70	40.76	42.90	35.64	51.13	3.50	3.50	4.02	60.02	58.44	1.546	4.95	35.92	3.57	70
	65	38.64	41.56	34.63	49.17	3.47	3.48	4.00	59.30	57.29	1.536	4.94	35.39	3.52	65
	60	37.20	40.29	33.61	47.26	3.44	3.46	3.97	58.38	55.93	1.525	4.93	34.86	3.47	60
	55	36.19	39.01	32.60	46.02	3.41	3.43	3.95	57.34	54.55	1.518	4.92	34.39	3.42	55
	50	35.19	37.73	31.50	44.79	3.38	3.41	3.93	56.30	53.18	1.513	4.90	34.11	3.39	50
	45	34.19	35.96	29.88	43.55	3.35	3.38	3.92	55.12	51.92	1.508	4.89	33.83	3.37	45
	40	33.18	34.11	28.26	42.31	3.32	3.36	3.90	53.84	50.66	1.503	4.88	33.55	3.34	40
	35	32.20	32.56	26.83	41.08	3.29	3.33	3.89	52.61	49.44	1.498	4.87	33.27	3.31	35
	30	31.25	31.45	25.67	39.56	3.26	3.31	3.87	51.65	48.45	1.493	4.86	32.99	3.28	30
	25	30.29	30.34	24.51	38.00	3.22	3.28	3.85	50.69	47.46	1.486	4.85	32.62	3.24	25
	20	29.34	29.24	23.35	36.43	3.19	3.25	3.81	49.74	46.47	1.469	4.83	32.13	3.21	20
	15	28.39	27.91	21.93	34.87	3.16	3.22	3.76	48.51	45.32	1.454	4.74	31.64	3.17	15
	10	27.43	26.07	20.31	32.53	3.12	3.18	3.72	47.24	43.78	1.439	4.60	30.87	3.11	10
	5	24.44	24.22	18.69	29.92	3.00	3.11	3.66	45.37	42.24	1.423	4.38	28.92	3.06	5
	Below														Below
STATE MEAN		37.80	37.55	31.73	47.32	3.40	3.43	3.95	55.87	53.35	1.52	4.83	34.45	3.42	
STATE STANDARD DEVIATION		10.45	9.11	8.88	12.86	0.29	0.24	0.16	6.29	7.59	0.06	0.37	3.21	0.25	

Prediction of School Means

The Pennsylvania School Norm tables discussed above were constructed to aid the Phase III school administrators in determining where their schools stand on the achievement of the ten goals in relation to a state reference group. However, it was realized that a comparison group that included a cross section of schools throughout the state might not be equally relevant to all Phase III schools. Therefore, the Pennsylvania assessment program was designed to take into account differing home, school, and community conditions that might limit what a school can accomplish with its pupils.

To accomplish this end the Bureau developed "prediction equations"* for each of the ten quality education instruments based upon statistical relationships between Phase II school scores on the instruments and the measured condition variables. The procedure involved correlating each of the variables, both output and condition, with every other variable. The zero order correlations were then used as a basis for multiple correlation coefficients. For a more thorough explanation of the procedures used to determine the prediction equations, refer to Section Six of the Phase II Findings.

Taking into account (1) the school, community, and student conditions that are related to scores on the goal instruments and (2) the unique combination of

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*These prediction equations take the general form:

$$\hat{Y} = b_1x_1 + b_2x_2 + \ldots + b_ix_k + a$$

where $\hat{Y}$ = predicted school mean
$x_1 \ldots x_k$ = school condition variables used to predict the school mean
$b_1 \ldots b_i$ = regression weights applied to each variable to maximize prediction accuracy
a = constant used to maximize prediction accuracy

these conditions that the school of interest possesses, the equations predict school scores on each of the instruments. A summary of the variables used to predict school means on each instrument and the weights applied to these variables to maximize the accuracy of the school prediction is given in Tables XIV and XV.

Caution must be used when evaluating these variables and their respective regression weights. The inclusion of any one condition variable in the set of condition variables used to predict the school mean does not imply that (1) it "causes" school outcomes to be higher or lower or (2) that it necessarily has the highest relationship with the outcome (i.e., goal instrument) in question. Rather, the variables included in the prediction equation should be looked upon as the set of condition variables that when taken into account with their appropriate weights can maximize the accuracy of a school mean prediction.

TABLE XIV
CONDITION VARIABLES, REGRESSION WEIGHTS, AND CONSTANTS FOR
SCHOOL MEAN PREDICTION EQUATIONS ON 10 EQA INSTRUMENTS: GRADE 5

GOAL INSTRUMENT	VARIABLES USED TO PREDICT SCHOOL MEAN	REGRESSION WEIGHTS APPLIED TO EACH VARIABLE	CONSTANT FOR PREDICTION EQUATION
I Self Understanding	FOCC	.053	80.04
	TSTABL	.775	
	TEXPER	.052	
	SUBSIDY	-.005	
	HOUSING	.656	
II Understanding Others	LPL	.110	24.95
	FEDUC	.835	
	TSTABL	-.523	
	TCAREER	.102	
	TSEX	1.168	
III Basic Skills	LPL	.077	1.99
	SEX	.281	
	FAMSES	.004	
	TEXPER	.007	
	INSEXADM	-.001	
	GUIDANCE	-.054	
IV Interest in School	MEDUC	2.022	48.14
	LOCATION	.253	
	FAMSES	-.037	
	CLPRACT	.153	
	TSEX	-1.825	
	ENROLL	.001	
V Citizenship	LPL	.888	105.90
	FEDUC	1.804	
	SEX	10.108	
	TEXPER	.176	
VI Health Habits	LPL	.403	5.77
	MEDUC	.960	
	RACE	.904	
	TEXPER	.061	
VII Creativity	LPL	.716	93.81
	FEDUC	1.601	
	SEX	7.288	
	TEXPER	.140	
	ENROLL	.002	

TABLE XIV:(continued)

GOAL INSTRUMENT	VARIABLES USED TO PREDICT SCHOOL MEAN	REGRESSION WEIGHTS APPLIED TO EACH VARIABLE	CONSTANT FOR PREDICTION EQUATION
VIII Vocational Development	LPL	.159	51.12
	FOCC	.036	
	RACE	.788	
	TAGE	.088	
	TLOCALE	-.447	
IX Appreciating Human Accomplishments	SEX	3.603	42.55
	LOCATION	.155	
	TLOCALE	.330	
	TCAREER	.172	
	SUBSIDY	.003	
X Preparing for a Changing World	FEDUC	2.560	105.98
	MEDUC	-2.318	
	SEX	-4.599	
	TAGE	-.428	
	TCAREER	.315	
	GUIDANCE	1.014	

TABLE XV
CONDITION VARIABLES, REGRESSION WEIGHTS, AND CONSTANTS FOR SCHOOL MEAN PREDICTION EQUATIONS ON 11 EQA INSTRUMENTS: GRADE 11

GOAL INSTRUMENT	VARIABLES USED TO PREDICT SCHOOL MEAN	REGRESSION WEIGHTS APPLIED TO EACH VARIABLE	CONSTANT FOR PREDICTION EQUATION
I Self Understanding	LOCATION	.273	68.39
	RACE	-1.342	
	COUNSEL	.868	
	VALUES	2.479	
	TSTABL	1.579	
	TMEDUC	.401	
	REACTL	-.577	
	TSALARY	-.0008	
	TEDUC	1.939	
	POSTGRAD	-.027	
	EFFORT	.095	
	ENROLL	.001	
	HOUSING	.401	
	GUIDANCE	205.134	
II Understanding Others	LPL	.131	57.78
	LOCATION	.400	
	MORESB	1.732	
	VALUES	4.093	
	PCTMW	4.816	
	TCOLLEGE	-1.944	
	TSTABL	1.039	
	TMEDUC	.586	
	TFOCC	.449	
	DISCREP	-.314	
	STAFFP	49.848	
	BOOKSP	-.088	
III Basic Skills	LPL	.080	1.33
	TSTABL	.150	
	TCAREER	.032	
IV Interest in School	LIBRARY	3.390	23.72
	MORESB	2.876	
	VALUES	3.105	
	ATTEND	2.482	
	MOCC	.095	
	PCTMW	7.267	
	TAGE	.889	
	TPPOS	-1.865	
	TSTABL	1.633	
	TSATISF	.460	
	POSTGRAD	-.056	
	INSEXADM	-.008	
	HOLDING	.107	
	GUIDANCE	1372.092	

TABLE XV: (continued)

GOAL INSTRUMENT	VARIABLES USED PREDICT SCHOOL MEAN	REGRESSION WEIGHTS APPLIED TO EACH VARIABLE	CONSTANT FOR PREDICTION EQUATION
V Citizenship	RACE	3.284	69.08
	LIBRARY	4.381	
	VALUES	9.507	
	ATTEND	5.033	
	OCDESIRE	.506	
	OCEXPECT	-.649	
	TAGE	1.721	
	TCOLLEGE	-3.320	
	TLOCALE	2.269	
	TMEDUC	2.254	
	TSALARY	-.0013	
	ENROLL	.001	
	STAFFP	105.264	
	GUIDANCE	723.131	
VI Health Habits	LPL	.394	43.77
	SEX	9.291	
	LOCATION	-.635	
	LIBRARY	-1.696	
	COUNSEL	1.371	
	MORESB	7.361	
	MORESG	-5.871	
	VALUES	3.445	
	ATTEND	2.252	
	TLOCALE	1.790	
	TMEDUC	1.600	
	TEDUC	2.855	
VII-P Creative Potential	ATTEND	-1.265	54.37
	OCDESIRE	.115	
	FAMSES	.038	
	INSEXADM	.006	
	ENROLL	-.001	
VII-O Creative Output	LPL	-.110	174.73
	SEX	-9.655	
	LOCATION	-.472	
	RACE	-2.689	
	LIBRARY	1.890	
	OCEXPECT	.187	
	PCTMW	-4.724	
	TSTABL	-4.149	
	SUBSIDY	.006	
	EFFORT	-.217	

TABLE XV: (continued)

GOAL INSTRUMENT	VARIABLES USED PREDICT SCHOOL MEAN	REGRESSION WEIGHTS APPLIED TO EACH VARIABLE	CONSTANT FOR PREDICTION EQUATION
VIII Vocational Development	LPL	.177	60.89
	SEX	4.747	
	VALUES	2.304	
	TFOCC	.425	
	DISCREP	-.380	
	ENROLL	.001	
IX Appreciating Human Accomplishments	LPL	.370	76.57
	SEX	7.072	
	LOCATION	.562	
	MORESB	3.570	
	VALUES	5.547	
	ATTEND	3.118	
	MOCC	.071	
	PCTMW	7.223	
	TPPOS	-1.185	
	TCOLLEGE	-3.242	
	TLOCALE	2.971	
	REACTL	-.325	
	RECIDEA	1.164	
	TSATISF	.219	
	STAFFP	52.541	
X Preparing for a Changing World	RACE	1.293	95.99
	MORESG	-2.384	
	VALUES	10.734	
	MOCC	.073	
	FAMSES	.050	
	TCOLLEGE	-2.783	
	TCAREER	-.364	
	TSATISF	-.413	
	DISCREP	-.708	
	CLPRACT	-.255	
	TSALARY	-.0010	
	TEXPER	.154	
	BOOKSP	.130	
	GUIDANCE	-849.114	
	INNOVATE	.049	

Student Distributions: Quality Education Instruments

The instruments employed by the Bureau are not intended for use in diagnosing individual students within the school. However, when one evaluates his school's performance in the goal areas, it becomes increasingly important to take into account not only the average performance level of the student body, but also how the students within the school distribute themselves on each goal instrument. Indeed, two schools could have similar mean scores yet display very different student distributions.

With this in mind, state student percentile distributions were computed for each grade level using the entire Phase II student sample. Columns 2 and 3 in Table XVI show percentile ranks and their corresponding raw score equivalents for Grade Five inventories. Columns 2 and 3 in Table XVII display similar information on the goal inventories for Grade Eleven students.

Distributions comprising a cross section of students throughout the state might not be equally relevant to all Phase III schools. The questions may arise: Do higher scoring schools have different student distributions from lower scoring schools? If so, in what ways are these distributions different? To give answers to these questions and to provide additional relevant comparison groups the following procedure was carried out.

For each of the inventories for Grades Five and Eleven, the Phase II schools were partitioned into five groups according to their mean on that instrument. The five school groupings were:

GROUPING	CRITERION FOR INCLUSION IN GROUP
Very High	Schools scoring more than 1.5 S.D. above the state average
High	Schools scoring .5 to 1.5 S.D. above the state average

Middle	Schools scoring .5 S.D. above the state average to .5 S.D. below it
Low	Schools scoring .5 to 1.5 S.D. below the state average
Very Low	Schools scoring more than 1.5 S.D. below the state average

Separate student distributions were then computed for each of the five school groupings. Columns 4 through 8 in Tables XVI and XVII display these student distributions for Grade Five and Grade Eleven respectively.

Predicted Student Distributions

Each participating Phase III school will receive for each inventory a range of scores within which its mean score is expected to fall. Concurrently the school will receive a predicted student distribution corresponding to its predicted mean score. The distributions that are presented in the individual school report depend upon which of the above five school groupings its predicted school mean falls for each inventory.

TABLE XVI
STUDENT DISTRIBUTIONS FOR FIVE SCHOOL GROUPINGS
ON EQA INSTRUMENTS: GRADE 5

INSTRUMENT	PERCENTILE RANK	RAW SCORE EQUIVALENT	VERY LOW-SCORING SCHOOLS	LOW-SCORING SCHOOLS	MIDDLE-SCORING SCHOOLS	HIGH-SCORING SCHOOLS	VERY HIGH-SCORING SCHOOLS
Self Understanding	81 and above	95 and above	8%	14%	20%	28%	39%
	61-80	90-94	11%	16%	20%	21%	22%
	41-60	85-89	20%	21%	20%	20%	19%
	21-40	80-84	25%	24%	21%	17%	12%
	20 and below	79 and below	36%	25%	19%	14%	8%
Understanding Others	81 and above	37 and above	9%	12%	19%	25%	34%
	61-80	35-36	10%	16%	19%	26%	29%
	41-60	32-34	18%	21%	22%	21%	20%
	21-40	28-31	26%	25%	21%	16%	11%
	20 and below	27 and below	37%	26%	19%	12%	6%
Basic Skills	81 and above	581 and above	3%	11%	19%	31%	48%
	61-80	521-580	8%	15%	22%	25%	25%
	41-60	468-520	13%	20%	22%	20%	16%
	21-40	416-467	21%	25%	21%	16%	8%
	20 and below	415 and below	55%	29%	16%	8%	3%
Interest in School	81 and above	67 and above	6%	12%	18%	27%	37%
	61-80	62-66	9%	16%	19%	21%	24%
	41-60	57-61	14%	21%	23%	22%	19%
	21-40	52-56	26%	21%	20%	17%	12%
	20 and below	51 and below	45%	30%	20%	13%	8%
Citizenship	81 and above	182 and above	8%	11%	19%	26%	33%
	61-80	170-181	9%	15%	20%	24%	31%
	41-60	156-169	12%	17%	21%	21%	21%
	21-40	139-155	28%	27%	21%	18%	11%
	20 and below	138 and below	43%	30%	19%	11%	4%
Health Habits	81 and above	35 and above	3%	10%	16%	25%	37%
	61-80	31-34	8%	18%	25%	29%	33%
	41-60	28-30	11%	16%	18%	18%	16%
	21-40	23-27	26%	24%	21%	16%	10%
	20 and below	22 and below	52%	32%	20%	12%	4%
Creativity	81 and above	153 and above	4%	11%	18%	27%	35%
	61-80	143-152	10%	16%	21%	24%	29%
	41-60	134-142	17%	19%	21%	21%	18%
	21-40	124-133	25%	24%	21%	16%	11%
	20 and below	123 and below	44%	30%	19%	12%	7%
Vocational Development	81 and above	65 and above	5%	12%	19%	27%	39%
	61-80	61-64	14%	19%	24%	28%	29%
	41-60	59-60	15%	18%	17%	15%	15%
	21-40	56-58	27%	23%	21%	18%	10%
	20 and below	55 and below	39%	28%	19%	12%	7%
Appreciating Human Accomplishments	81 and above	57 and above	9%	15%	21%	28%	37%
	61-80	54-56	13%	18%	21%	23%	23%
	41-60	51-53	18%	21%	20%	20%	20%
	21-40	48-50	17%	17%	17%	14%	11%
	20 and below	47 and below	43%	29%	21%	15%	9%
Preparing for a Changing World	81 and above	115 and above	7%	13%	19%	29%	39%
	61-80	106-114	11%	15%	18%	21%	25%
	41-60	97-105	18%	22%	22%	19%	18%
	21-40	88-96	27%	23%	21%	17%	11%
	20 and below	87 and below	37%	27%	20%	14%	7%

TABLE XVII
STUDENT DISTRIBUTIONS FOR FIVE SCHOOL GROUPINGS
ON EQA INSTRUMENTS: GRADE 11

INSTRUMENT	PERCENTILE RANK	RAW SCORE EQUIVALENT	VERY LOW-SCORING SCHOOLS	LOW-SCORING SCHOOLS	MIDDLE-SCORING SCHOOLS	HIGH-SCORING SCHOOLS	VERY HIGH-SCORING SCHOOLS
Self Understanding	81 and above	97 and above	11%	14%	20%	26%	32%
	61-80	93-96	14%	15%	17%	18%	19%
	41-60	88-92	17%	23%	22%	22%	23%
	21-40	83-87	24%	20%	19%	17%	15%
	20 and below	82 and below	34%	28%	22%	17%	11%
Understanding Others	81 and above	99 and above	8%	13%	17%	24%	34%
	61-80	95-98	17%	19%	22%	24%	26%
	41-60	92-94	18%	18%	18%	18%	14%
	21-40	87-91	22%	22%	22%	18%	14%
	20 and below	86 and below	35%	28%	21%	16%	12%
Basic Skills	81 and above	584 and above	5%	11%	16%	25%	46%
	61-80	526-583	8%	16%	19%	23%	27%
	41-60	475-525	16%	19%	22%	20%	16%
	21-40	420-474	27%	26%	22%	18%	7%
	20 and below	419 and below	44%	28%	21%	14%	4%
Interest in School	81 and above	105 and above	12%	17%	21%	29%	45%
	61-80	98-104	12%	17%	19%	22%	22%
	41-60	91-97	15%	21%	20%	20%	14%
	21-40	82-90	24%	20%	21%	16%	13%
	20 and below	81 and below	37%	25%	19%	13%	6%
Citizenship	81 and above	184 and above	8%	16%	20%	28%	39%
	61-80	174-183	14%	18%	22%	25%	27%
	41-60	164-173	17%	20%	21%	19%	16%
	21-40	150-163	26%	21%	20%	15%	10%
	20 and below	149 and below	35%	25%	17%	13%	8%
Health Habits	81 and above	131 and above	6%	12%	19%	28%	38%
	61-80	126-130	12%	18%	23%	27%	24%
	41-60	121-125	13%	20%	20%	19%	19%
	21-40	113-120	23%	24%	20%	14%	14%
	20 and below	112 and below	46%	26%	18%	12%	5%
Creative Potential	81 and above	68 and above	6%	12%	18%	24%	33%
	61-80	63-67	16%	16%	19%	19%	19%
	41-60	59-62	19%	22%	19%	20%	18%
	21-40	54-58	36%	26%	24%	21%	17%
	20 and below	53 and below	23%	24%	20%	16%	13%
Creative Output	81 and above	149 and above	8%	16%	19%	24%	34%
	61-80	138-148	17%	18%	19%	21%	21%
	41-60	131-137	24%	20%	19%	20%	15%
	21-40	124-130	25%	24%	23%	21%	18%
	20 and below	123 and below	26%	22%	20%	14%	12%
Vocational Development	81 and above	89 and above	12%	17%	22%	27%	35%
	61-80	86-88	15%	19%	22%	23%	22%
	41-60	83-85	20%	19%	21%	21%	19%
	21-40	79-82	22%	21%	18%	17%	16%
	20 and below	78 and below	31%	24%	17%	12%	8%
Appreciating Human Accomplishments	81 and above	174 and above	13%	15%	20%	28%	33%
	61-80	164-173	15%	19%	21%	21%	26%
	41-60	155-163	17%	21%	21%	19%	17%
	21-40	145-154	23%	21%	18%	16%	13%
	20 and below	144 and below	32%	24%	20%	16%	11%
Preparing for a Changing World	81 and above	118 and above	10%	16%	20%	25%	33%
	61-80	110-117	11%	18%	21%	21%	24%
	41-60	103-109	18%	18%	19%	20%	17%
	21-40	94-102	21%	23%	20%	19%	13%
	20 and below	93 and below	40%	25%	20%	15%	13%

INTERPRETATION OF THE SCHOOL REPORT

Materials

A Pennsylvania Department of Education representative will report EQA findings to the chief school officer of each participating Phase III school district. He has attended a workshop conducted by the Bureau of Educational Quality Assessment which will help him in the dissemination and interpretation of the findings. The Bureau report to each school will contain the following:

- - -Norm charts for condition variables. Each school will receive three state norm tables for the condition variables--school and community indices, instructional staff indices, and student indices--and its standing on each of these variables.

- - -A marked norm chart for the EQA instruments. A red schoolhouse symbol indicates the actual mean performance level of the school's student body on each of the ten EQA goals. Two horizontal bars delineate the range of scores predicted for that school given the condition variables under which it operates. The wide gray band indicates the median school score on each instrument.

- - -An unmarked norm chart for the EQA instruments. Districts with more than one participating Phase III school can summarize the schools' obtained and predicted scores on this chart.

- - -Packet of student distributions and key items on the EQA instruments. On ten separate sheets (one for each goal) the quintile distributions of the students on each instrument are reported together with the student distribution that is expected for the school given its inputs and the state normative distribution on each instrument. Each sheet also lists student response percentages on key items of that instrument.

Reading a Norms Chart

As earlier noted in Section 3 of this manual, a school's score on an instrument is compared with two reference groups: (1) a statewide cross section of schools (statewide norms) and (2) only those schools whose set of condition variables result in a similar expected score (predicted bands). Illustration I demonstrates the form these two comparisons take.

- - - Statewide Norms. The chart allows one to compare a school's actual reported score to the statewide reference group and determine the school's standing relative to that group on each of the Quality Education Inventories.

The gray shaded area across the chart designates the median score of Phase II schools on each instrument. Displayed at the bottom of the chart are the mean and standard deviation of the normative schools on each inventory.

By reading across the chart one can find the raw school scores on each instrument corresponding to a given percentile rank. For example, a score of 91.59 on Self Understanding inventory and a score of 94.73 on the Understanding Others inventory are at the 95th percentile in terms of the state norm group.

ILLUSTRATION I
SCHOOL MEAN PREDICTION BANDS

PERCENTILE DISTRIBUTION	Percentile Rank	SELF UNDERSTANDING	UNDERSTANDING OTHERS	BASIC SKILLS	INTEREST IN SCHOOL
	Above				
	95	91.59	94.73	535	99.42
	90	90.79	93.86	524	97.77
	85	90.41	93.14	521	96.66
	80	90.18	92.84	518	95.54
	75	89.96	92.55	515	94.8
	70	89.74	92.26	512	94.39
	65	89.56	91.95	507	93.95
	60	89.38	91.63	500	93.50
	55	89.20	91.31	496	93.11
	50	89.02	91.10	494	92.7
	45	88.82	90.90	492	92
	40	88.61	90.69	490	92.1
	35	88.41	90.48	487	91.78
	30	88.20	90.25	485	91.44
	25	87.88	89.96	482	90.96
	20	87.52	89.67	478	90.48
	15	87.13	89.38	473	90.0
	10	86.71	88.79	465	89.3
	5	86.19	88.11	453	88.02
	Below				
MEAN		88.94	91.30	497	93.28
STANDARD DEVIATION		1.58	1.91	027	3.67

- - -Prediction Bands. Separate prediction equations are used to predict school means on each instrument. Each equation has its own degree of prediction error called the standard error of estimate. The widths of the prediction bands are determined by adding and subtracting the standard error of estimate from the predicted school mean score.

The marked band in each column indicates the range into which the mean for the Phase III school is expected to fall given the conditions under which the school has to operate. The condition variables and regression coefficients used to make these predictions are discussed in Section 3 of this manual.

Note the location of the band boundaries for Column 2 of the illustration. In this hypothetical case the school score on the Self Understanding inventory is expected to fall between 90.41 and 89.70. These scores correspond to state percentile ranks of 85 and 69. Similarly, on Basic Skills the school mean is predicted to fall between the 55th and 65th percentiles.

The widths of the prediction bands (in raw score units) are determined by the relationship between the condition variables and the goal instruments. School scores on some goal instruments are more highly related to the condition variables than are school scores on other instruments. As the ability to predict these school outcomes from the sets of condition variables increases, the prediction bands become more narrow.

Furthermore, in a given column the <u>apparent</u> physical width of the band will differ depending upon whether the school score is predicted to be close to or far from the statewide average. This difference in <u>apparent</u> band width is an artifact of the norm chart. That equal raw score intervals (the basis

of the predicted ranges) translate to different "widths" on the chart can be explained by the fact that the "distances" on the chart are based on percentile rank distributions of schools and not on the raw scores which are used for prediction bands.

"Aquarius High School"

Sections of a Phase III report to a hypothetical Aquarius High School are given below. Illustrations II and III are presented to give Phase III school personnel an idea of the form a school report takes.

By referring to Illustration II, Aquarius High School's officials can first see how their school compares to the state norm group. The position of Aquarius in relation to this reference group is given by a "schoolhouse" symbol. The line through this symbol's base represents the scorepoint at which the Aquarius school mean fell on each quality education inventory.

Checking the positions of these symbols one might first note that the school has scored below the median on the goals of (1) Self Understanding, (2) Understanding Others, and (3) Basic Skills. However, its score is above the state median on (1) Interest in School, (2) Citizenship, and (3) Health Habits. The locations of the bases of the schoolhouse symbols represent respective percentile ranks of 11, 39, 39, 53, 91, and 55.

Looking at the percentile ranks alone suggests the first three goal areas to be "problem areas" with Understanding Others and Basic Skills both falling at the 39th percentile. When prediction bands for each inventory are taken into account, a different and more complete picture of Aquarius emerges.

Even though its mean score on Understanding Others is below 61 out of 100 schools in the state norm group, Aquarius High School is above its

predicted band on this inventory. The results of this comparison indicate that Aquarius is doing better in the goal area than would be expected given the school, student, and community conditions under which it operates.

On the other hand, the 39th percentile rank of Aquarius on Basic Skills falls below the prediction level. In this area Aquarius High School is not achieving at as high a level as is expected given the set of conditions under which it has to operate.

On Interest in School the actual score of 93, corresponding to a percentile rank of about 53, falls within the predicted band of 91.78 to 94.39 (35th to 70th percentiles). (CAUTION: No additional conclusion should be drawn because the actual mean falls in the "upper" portion of the range.)

The predicted high ranges on Citizenship and Health Habits indicate that schools in settings similar to Aquarius achieve high scores on these instruments. The Aquarius High School scores on both of these instruments are also high but above the prediction on Citizenship and below the prediction on Health Habits.

On the basis of prediction band comparisons, Aquarius has reason for concern in the areas of Self Understanding, Basic Skills, and Health Habits because the school is not achieving at as high a level as would be expected given the set of conditions with which it has to work.

On the other hand, Aquarius might want to share with other schools its success in overcoming the limitations placed on it. Its success is indicated by its higher than predicted scores on Understanding Others and Citizenship.

ILLUSTRATION II

PREDICTION BANDS AND ACTUAL SCORES: "AQUARIUS HIGH SCHOOL"

PERCENTILE DISTRIBUTION	Percentile Rank	INSTRUMENT						
		SELF UNDERSTANDING	UNDERSTANDING OTHERS	BASIC SKILLS	INTEREST IN SCHOOL	CITIZENSHIP	HEALTH HABITS	CREATIVE POTENTIAL
	Above							
	95	91.59	94.73	535	99.42	175.86	126.64	62.95
	90	90.79	93.86	524	97.77	173.[illegible]	125.90	62.29
	85	90.41	93.14	521	96.66	172.45	125.23	61.89
	80	90.18	92.84	518	95.54	171.78	124.65	61.69
	75	89.96	92.55	515	94.84	171.10	124.19	61.48
	70	89.74	92.26	512	94.30	170.43	123.73	61.28
	65	89.56	91.95	507	93.95	169.68	123.26	61.0[illegible]
	60	89.38	91.63	500	93.50	168.89	122.62	60[illegible]
	55	89.20	91.31	496	93.[illegible]	168.10	121.[illegible]5	60.5[illegible]
	50	89.02	91.10	494	92.78	167.38	121.41	60.35
	45	88.82	90.90	492	92.44	166.75	121.06	60.09
	40	88.61	90.[illegible]	49[illegible]	92.11	166.12	120.71	59.84
	35	88.41	90.48	487	91.78	165.49	120.35	59.58
	30	88.20	90.25	485	91.44	164.77	120.00	59.31
	25	87.88	89.96	482	90.96	163.93	119.50	59.05
	20	87.52	89.67	478	90.48	163.07	118.96	58.75
	15	87.13	89.38	473	90.00	162.16	118.41	58.[illegible]
	10	86.71	88.79	465	89.36	161.11	117.63	58[illegible]
	5	86.19	88.11	453	88.02	160.06	116.77	57.6[illegible]
	Below							
MEAN		89.94	91.30	497	93.28	167.64	121.56	60.31
STANDARD DEVIATION		1.58	1.91	027	3.67	5.18	3.29	1.69

- - -Actual and Predicted Student Distributions. Aquarius High School officials, having noted their mean scores on the quality education instruments and having compared them to both predicted means and statewide norms, are provided with the distribution of their students on these inventories. The form this report takes for Goal I is shown by Illustration III.

ILLUSTRATION III
PREDICTED AND ACTUAL STUDENT DISTRIBUTIONS ON
SELF UNDERSTANDING: "AQUARIUS HIGH SCHOOL"

GOAL I - SELF-UNDERSTANDING

Percentile Rank	Student Distributions		
	State Norm	School Prediction	School Actual
81 or above	19%	14%	5%
61 - 80	20%	15%	5%
41 - 60	22%	23%	20%
21 - 40	19%	20%	26%
20 or below	20%	28%	44%

Column 2 in the illustration gives the per cent of Phase II students scoring in each of five raw score intervals on the Self Understanding inventory. Column 3 displays the way students in Aquarius are expected to distribute themselves on the inventory. (For information on how this prediction was developed, see page 49 of this manual.) Column 4 shows how the students actually distributed themselves on Self Understanding.

Note that a large percentage of Aquarius High School's 11th grade students scored very low on the inventory (i.e., 44% fall in the lowest score range). Also note that a very low percentage of its students score in the

upper score ranges of the instrument. The comparison between percentages in Column 2 and 4 reveals that the actual distribution does not compare favorably to the state distribution. Furthermore, the Aquarius School has a less favorable student distribution on this inventory than it is expected to have given the conditions under which it is operating.

- - -Key items. The possibility always exists that the school's student body is achieving exactly as it is predicted to achieve on the basis of the school, community and home conditions that make up its environment. However, the school's student achievements in the goal areas may be far from satisfactory in terms of thoughtful and serious value judgments of concerned educators.

To aid in such a criterion reference and to allow Aquarius school officials to see the student replies which contributed to the school's score, percentage replies to key items on each inventory are reported on each goal sheet.